

AlphaPM

Continuous monitoring of Radon decay products concentration

Key features

- For time-resolved and fast measurement of Radon concentration in buildings and outdoors
- Control of personal exposure and dose
- Ultra-small, light-weight
- Measurement from 20 Bq/m³ to 10 MBq/m³ (0,54 pCi/l to 270 nCi/l)
- Simultaneous recording of air temperature, humidity and pressure
- Battery life up to 6 months
- Acoustic alert for Radon concentration and Radon dose
- Sampling period from 0,5 h to 24 h, or continuously
- Battery operation of at least 24 h
- Long-lived swinging lever pump
- Small, portable and easy to operate



AlphaPM

AlphaPM Radon progeny meter is a professional active monitor with high sensitivity, measuring time-resolved air-borne Radon progeny concentration.

The device is designed to be connected to the AlphaGUARD Radon monitor in order to measure Radon progeny concentration in parallel to Radon gas.

AlphaPM samples air and collects airborne radio nuclides on a filter. The Alpha activity is counted using a sensitive semiconductor (PIPS). The cumulated pulses are evaluated and converted into appropriate units (MeV/l, Bq/m³ EEC, J/m³, WL). The result is displayed and transferred to the AlphaGUARD to be stored along with other data saved by the device.

AlphaPM is optimized for easy, reliable and accurate performance. The internal battery allows independent operation of at least 24 h at a flow rate of 2 l/min. AlphaPM is suitable for short-term applications, e.g. for checking of the used equilibrium factor as well as for long-term surveillance of the Radon decay products.

AlphaPM

APPLICATIONS

- Continuous monitoring as well as fast screening measurement
- Radon surveillance and mitigation at workplaces (according to valid radiation protection regulations)
- Exposure monitoring of personnel in specific areas
- Studies of building characteristics

PHYSICAL CHARACTERISTICS

- **Detection principle:** Quasi-continuous (sampling with a 10 min interval)
- **Detection efficiency:** 130 pulses/h at 1 Bq/m³ EEC (0,03 MeV/cm³) and a pump rate of 2 l/min
- **Measurement range:** 0,5 to 1 000 000 Bq/m³ EEC (0,02 to 35 000 MeV/cm³)
- **Lower detection limit:** 2 Bq/m³ EEC (0,07 MeV/cm³) at 10 min and 2 l/min flow
- **Measurement cycle:** Selectable at 0,5, 1, 2, 4, 6, 12, 24 h or continuously
- **Measurement units:** Bq/m³ EEC, µJ/m³, MeV/cm³, mWL
- **Pumping unit:** Long-lived swinging lever pump, flow controlled and adjustable (0,0 – 0,5 – 1,0 – 1,5 – 2 l/min), according to required sensitivity

MECHANICAL CHARACTERISTICS

- **Dimensions:** 220 mm x 98 mm x 340 mm
- **Weight:** 2,5 kg
- **Filter:** Glass fiber filter, thickness 0,35 mm, retention capacity 0,6 µm

ENVIRONMENTAL CHARACTERISTICS

- **Operating temperature range:** 0° C to +50° C (32° F to 122° F)

ELECTRICAL CHARACTERISTICS

- **Power supply:** 12 V Battery and mains adapter at 100 to 240 VAC
- **Battery life (rechargeable):** > 24 h at a flow rate of 2 l/min

INTERFACE

- **Data display:** 2 x 20 digit LCD
- **Signal output:** TTL, connecting to AlphaGUARD via EXT1 socket (AlphaGUARD D series) or MINI-DIN socket (AlphaGUARD PQ2000 PRO with TTL module)